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BUDGETING AT THE SHIPBOARD LEVEL

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BUDGETING AT THE SHIPBOARD LEVEL

by

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//
Bachelor of Science, 1946
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A thesis submitted to the faculty of the School of Government, Business and International Affairs, The George Washington University in partial satisfaction of the requirements for the degree of Master of Business Administration

June 5, 1964

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INTRODUCTION

Today's emphasis on financial management and the ever increasing need to quantatively and objectively determine and state requirements, particularly those of the fleet, has prompted this study of shipboard material and funding practices. Fleet Supplies and Equipage funds are a small segment of the total Navy budget, approximately 0.8%; however their availability and application significantly affect the readiness posture and endurance capability of the Navy.

For perspective, policies are sketchily traced from 1946 to the present and contrasted with those of ashore stock points. Bureau Supplies and Accounts and Navy Comptroller Manuals are the authority for the practices described below.

Shipboard material management methods and procedures are essentially the same today as they were in 1946. For example, allowance lists specify the items and quantities of equipage and repair parts allowed. Equipage is to be replaced when no longer serviceable and repair parts are to be replenished whenever an issue is made from stock. Consumable supplies are stocked at a depth specified by type commanders, usually stated in terms of days supply, and replenishment is to take place whenever the reorder point is reached.

Shipboard funding methods and procedures however,

have changed considerably. For example, in 1946 material was issued to ships on a no charge basis; hence shipboard personnel were not required to budget for expenditures or analyze requirements in terms of available dollars.

It is of interest to note at this point that today's senior Naval officers acquired most of their junior officer and department head training in this type of funding and material availability climate.

Commencing in 1949 funds for equipage replacements and replenishments of consumable supplies were allotted to commanding officers. Subsequently during the late 1950's repair parts were converted to allotment, now called operating target, type funding. Budgeting at the shipboard level first became a command or management requirement in 1949.

Navy Comptroller regulations did not then nor do they now provide guidance in how to develop and use a shipboard budget as a management device. Required records and reports are in terms of total dollars allotted, expended and available for expenditure. Information by cost categories in terms of what was procured, how much is on hand, and how much is required, is not readily available.

Contrast shipboard methods and procedures with those of ashore stock points where work measurement and engineered time standards are used for personnel management; where inventory management techniques such as fractionating inventories by velocity of issues and monetary investment are

used with statistical methods to compute reorder points, quantities and issue trends; where financial records are used to determine stock turnover, to compare receipts with issues, to identify investment and activity trends by commodity type or cost categories.

Suffice it to say, shipboard budgeting and inventory management techniques haven't kept pace with those used in ashore stock points.

In budgeting, as with any other endeavor, the methods employed and results vary, based upon the skill and managerial qualities of the administrator. The extent of the administrator's participation in the budget formulation process and the degree to which he is held responsible for the outcome of events influence considerably his interest and support.

Budgets in private industry are one of the primary tools used to monitor operations, signal the need for investigative and corrective action and measure performance.

It is the purpose of this study to: 1) ascertain to what extent budgeting is an integral part of planning at the shipboard level; 2) ascertain to what degree results or readiness are appraised in financial terms; 3) ascertain what budget data are available at the shipboard level; 4) review the data and justification presented for supplies and equipage funds; and 5) to suggest a method of preparing shipboard budgets.

The methods of research used in preparing this study

have been:

(a) Participation in budget preparation at the shipboard level.

(b) Review of shipboard budgets and financial planning as a type commander supply inspector.

(c) Study of Navy Department regulations.

(d) Personal interviews with operating personnel of ships, Type Commander staffs, Bureau of Ships, Office of the Navy Comptroller, and Logistics Section of the Office of the Chief of Naval Operations.

CHAPTER I

ORGANIZATIONAL RELATIONSHIPS

Introduction

The management process of budgeting is preceded by organization and planning and followed by execution and appraisal.[1] To place shipboard budgeting in proper perspective it is advisable to review the organizational structure, relationships and planning effort at the various operational levels of the Navy.

Organization

Organization is the instrument through which naval leadership produces effective operational readiness of the fleet.[2]

The Navy is divided into four principal parts for administrative purposes.[3] These are the operating forces

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[1] U. S., Department of the Navy, Review of Management of the Department of the Navy, Navy Publication No. NAVEXOS P-2426B-2, 1962, p. 24.

[2] U. S., Department of the Navy, Bureau of Naval Personnel, Organization Planning for Naval Units, Navy Publication No. NAVPERS 18371, 1963, p. 1-3.

[3] U. S., Department of the Navy, Navy Regulations, General Order No. 5, 1963, p. 3.

of the Navy, the United States Marine Corps, Other Supporting Organizations and the Naval Material Support Establishment.

Ships are part of the operating forces of the Navy. The principal operating forces are the U. S. Atlantic Fleet, the U. S. Pacific Fleet, U. S. Naval Forces Eastern Atlantic and Mediterranean and the U. S. Military Sea Transportation Service.

The Atlantic and Pacific Fleets are classified and organized into commands by types; as for example, Amphibious Forces, Fleet Marine Forces, Naval Air Forces, Cruiser-Destroyer Forces, Mine, Submarine, Service and Training.[1]

Each type command is organized into groups or flotillas, and further subdivided into squadrons, divisions and individual ships.

Command

The Chief of Naval Operations commands the operating forces of the Navy.[2] He is assisted by the Vice Chief of Naval Operations, the Assistant Vice Chief of Naval Operations and six Deputy Chiefs of Naval Operations.

The Deputy Chief of Naval Operations, Logistics, is responsible for planning and providing for the necessary

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[1] U. S., Department of the Navy, Bureau of Naval Personnel, Naval Orientation, Navy Publication No. NAVPERS 16138-D, 1961, p. 210.

[2] Ibid., p. 198.

logistic support and material readiness of the operating forces of the Navy. The divisional functional assignments are the Logistic Plans division, Material and Budget division, Ship Characteristics division, Ships Material Readiness division and Shore Station Construction and Maintenance division.

Organizationally the management function of budgeting is located at the Deputy Chief of Naval Operation's level. In practice, however it takes the form of program sponsorship, with detailed budgeting being performed at a lower level.

Fleet Organization and Responsibilities

The headquarters staff of the Commander-in-Chief Pacific Fleet includes a Deputy Commander and nine (9) divisions. These are Administrative, Intelligence, Operations, Logistics, Communications, Plans, Chaplain, Medical and Dental.

The Operations and Logistics divisions, augmented by those of Commander, Service Force Pacific Fleet, are the counter parts of those at the Chief of Naval Operations level.

Type Commander staffs parallel those of the Fleet Commander; thus it can be seen that the functional responsibilities of the Chief of Naval Operations, though reduced in scope, are present in each command level.

Technical and Administrative Control

Administrative and technical direction of the operating forces is also exercised by the professional assistants to the Secretary of the Navy. These in part are:[1]

1. Comptroller of the Navy--who is responsible for budgeting and accounting policies and procedures.

2. Chief of the Bureau of Ships--who is responsible for maintenance of equipment policies and the equipment repair parts and equipage sections of ships allowance lists.

3. Chief of the Bureau of Supplies and Accounts--who is responsible for inventory management policies and procedures.

These are the functional areas that require the bulk of shipboard funds. A commanding officer, in effect, receives instructions relating to funds utilization from the professional assistants to the Secretary of the Navy.

Shipboard Organization

The commanding officer is charged with absolute responsibility for the safety, well being, and efficiency of his command.[2]

The primary shipboard departments are: Navigation, Operations, Gunnery (Deck), Engineering and Supply.

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[1] U. S., Department of the Navy, Navy Regulations, Chapter 4.

[2] U. S., Department of the Navy, Office of the Chief of Naval Operations, Naval Warfare Publication 50A, para. 511.

The pertinent responsibilities and duties, with respect to funds, are to:

1. Supervise the training and professional development of junior officers.

2. Maintain a current departmental ship's maintenance project.

3. Maintain and establish standards of performance and conduct.

4. Formulate and submit departmental budgetary requirements for maintenance and operation, and approve expenditures from the funds allotted by the commanding officer.[1]

Shipboard planning effort can be grouped into two types, 1) operational training, i.e., attaining and maintaining the capability to perform assigned missions; and 2) administrative, i.e., scheduling of maintenance, preservation, housekeeping, record keeping and reporting.

Operational training requirements, for the most part, are determined by squadron and type commanders and are published in administrative manuals and quarterly employment schedules.

Administrative requirements and procedures are published at each hierarchical level of the Navy.

The task of the commanding officer is to apportion, coordinate and control the efforts of shipboard personnel in satisfying the administrative requirements of higher authority and maintenance of his mission performance capability.

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[1] *Ibid.*, para. 521.

Summary

Military command is exercised through six or seven tiers of supervision, i.e., Chief of Naval Operations, Fleet Commander, Type Commander, Group Commander, Squadron Commander and Commanding Officer.

Technical and administrative direction is meshed at each level of supervision and is organizationally separated from operations within each tier of supervision. Coordination is usually effected at the deputy level.

A commanding officer of a ship receives direction from his command senior and the offices of the professional assistants to the Secretary of the Navy. It is significant to note that the technical functions, i.e., budgeting, maintenance of equipment, allowance preparation and inventory management, are normally performed by technical specialists and constitute the areas requiring the bulk of the supplies and equipage funds.

The source of the authority for the direction of the technical functions and the assignment of technical officers to perform these functions tends to lessen a commanding officer's knowledge and interest in these areas. Particularly when his performance is primarily evaluated by his command senior on the ship's ability to carry out its mission assignments.

CHAPTER II

THE BUDGET PROCESS

Introduction

Budgeting was defined by Mr. W. J. McNeil, former Assistant Secretary of Defense (Comptroller), as planning of "operations for an annual period . . . in terms of men, money and materials involved, which are converted into dollar requirements. This point is stressed because the development of a comprehensive and integrated plan of operation is the first requirement."

The Navy states its requirements consolidated and summarized in appropriation format. The five appropriations are: Military Personnel, Operation and Maintenance, Procurement, Research, Test and Evaluation, and Military Construction.[1]

Appropriation Hierarchy

Each appropriation has a number of subheads. These range from seven (7) to twenty eight (28), totaling sixty nine (69) in all.[2] The first two digits of the subhead

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[1] U. S., Department of the Navy, Office of the Comptroller, Navy Budget Digest, Fiscal Year 1964, Navy Publication No. NAVEXOS P-1355, p. 32.

[2] Ibid., pp. 46-73.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

generally designate the bureau to which that part of the appropriation is assigned, a designation equivalent to the budget term "major activity". The next two digits are used to designate a division of funds within the major activity, generally equivalent to the budget term "budget activity".[1] The budget activity is further subdivided into "budget projects". It is used to identify a subprogram, a program, or a project.

This system identifies the overall object or function (appropriation symbol), the activity responsible for managing the funds (major activity), the activity being managed (budget activity), and the specific purpose (budget program) for which the funds are appropriated. Figure 1 is an illustration of the system.

Budget reviews are conducted at the budget project level. This requires that the budget be assembled and justified at the project level.

The Assistant Navy Comptroller for Accounting estimates that there are 90-100 appropriation accounts, 900 budget activity accounts and over a 1000 budget project accounts open at any one time.[2]

Funds made available to Commanding Officers of ships are a portion of the appropriation Operation and Maintenance.

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[1] U. S., Department of the Navy, Review of Management of the Department of the Navy, Navy Publication No. NAVEXOS P-2426B-7, 1962, p. E-3.

[2] Taken from a lecture delivered to Navy Graduate Financial Management Program, The George Washington University, 15 April 1964.

FIGURE 1

APPROPRIATION COMPOSITION[a]

Source of Funds

Appropriation Symbol 17 4 1804
Department of the Navy --------
Fiscal Year ----------------------
Appropriation ------------------------

Appropriation Subhead 24 10
Administering Bureau ---------------------
Budget Program -------------------------------

Bureau Control Number 24 101
Budget Project --------------------
Allotment -----------------------------

Item Obtained

Object Class 089

Function Served

Expenditure Account	13131
Chargeable Activity	4296

---

[a] Source: Appendix E to Financial Management Study, *Review of Management of the Department of the Navy*, NAVEXOS P2426B-7.

Operation and Maintenance Appropriation

This appropriation is divided into eight (8) major activities. These are: General Expenses, Navy Personnel, Weapons and Facilities, Ships and Facilities, Medical Care, Civil Engineering, Servicewide Supply, Servicewide Operations, and Naval Petroleum Reserves. Thus it can be seen that the operating costs of the fleet are one of sixty nine (69) major activities (Ships and Facilities) competing for funds.

The major activity, Ships and Facilities, is assigned to the Chief of the Bureau of Ships for management. He in turn has subdivided it into eight (8) budget activities. These are: Maintenance and Operation of the Active Fleet, Active Fleet Alterations and Improvement, Technical Support Activities, Polaris, Fuel for Ships, Fleet Support Facilities, Maintenance and Operation Reserve Training Vessels, and Departmental Administration.

The budget activity, Maintenance and Operation of the Active Fleet, is divided into three (3) projects. These are: Supplies and Equipage, Scheduled Repairs, and Ship Repairs. Thus it can be seen that the operating costs of the fleet are not one of the sixty nine (69) major activities but rather one of hundreds of budget projects at least three tiers down the hierarchy that compete for funds.

Funds from the project Supplies and Equipage are allotted to the Fleet Commanders who in turn suballots to

Type Commanders. Type Commanders establish operating targets for ships and advise commanding officers of the amount available for use.

Budget Preparation

The supplies and equipage portion of the budget, in theory, is built from the bottom up. It starts at the shipboard level with the submission of anticipated requirements to the type commanders. Type commanders review, adjust and merge the individual ships requirements for transmittal to the fleet commander. Fleet commanders review the requests, adjust and consolidate the data for forwarding to the Bureau of Ships, where it is assembled as part of the bureaus budget package.

Budgeting is normally a year around process. For example, fiscal year 1964 is in the process of execution, fiscal year 1965 is in the process of review before Congress and fiscal year 1966 is in the process of planning and development. Each cycle of the supplies and equipage project has its beginning when the Bureau of Ships issues its budget call, usually in February of each year, to the Fleet commanders. The call requests apportionment data for the next fiscal year and budget data for the subsequent fiscal year. The apportionment request provides fleet commanders an opportunity to adjust their previous requests for funds, however the probability of an increase is remote as Congress is in the process of reviewing the budget. The best that can be realistically

hoped for is favorable consideration at the mid year review and additional support for the budget year request.

The budget year data, if accounting system information is used for justification, is that of the first half of the current fiscal year. Costs must be projected eighteen (18) months into the future with little assurance that operating conditions will be comparable and only limited knowledge of the expected amounts available for the forthcoming fiscal year.

The Bureau of Ships requests fleet commanders provide information for each of the budget projects, Scheduled Repairs (shipyard overhauls), Ship Repairs (special availabilities and tender availabilities), and Supplies and Equipage, in the format as indicated in figures 2, 3, and 4.

The supplies and equipage budget call for fiscal year 1966 also requested data as to:

1. Percentage of funds spent for replacement of repair parts on a one for one basis.

2. Percentage of funds spent to replenish inventories for range only.

3. Percentage of funds spent to replenish inventories for depth only.

The type and fleet commanders are required to justify any increases in costs between fiscal years and furnish any additional information available to further explain and quantify costs. Thus the "base" method, a projection of the period year's cost, is used to justify requirements rather than a "zero-base" method of rejustifying en toto each year the cost of operation.

FIGURE 2

FORMAT FOR SUBMISSION OF SCHEDULED REPAIR JUSTIFICATION DATA BY FLEET COMMANDER TO BUREAU OF SHIPS[a]

Operation and Maintenance, Navy
Apportionment Request and Budget Data
Fiscal Years 1964, 1965 and 1966

1964

No. of Ships	Unit Cost	Total Cost
Category A1	Regular Overhauls	(note 1)
A2	Frame Overhauls	
Total		

1965

No. of Ships	Unit Cost	Total Cost
Category A1	(notes 2, 3, and 4)	
A2		
Total		

1966

No. of Ships	Unit Cost	Total Cost
Category A1		
A2		
Total		

Scheduled Overhaul Differences
Between Fiscal Year 1965 and 1966

No. of Ships	Unit Cost	Total Cost
Category A1	(note 5)	
A2		
Total		

Notes: (1) List ship types, as applicable, under each category.

(2) Total number of ships within each type that will be funded within the applicable fiscal year.

(3) Average dollar requirement to fund one ship overhaul.

(4) Total cost for all ships within each type.

(5) Indicate explanation of required increase or decrease for fiscal years 1965 and 1966.

---

[a] Letter from Chief, Bureau of Ships to Commander in Chief, U. S. Atlantic Fleet and Commander Service Force, U. S. Pacific Fleet, serial 518B-405 of 10 December 1963.

FIGURE 3

FORMAT FOR SUBMISSION OF SHIP REPAIR JUSTIFICATION DATA BY FLEET COMMANDERS TO BUREAU OF SHIPS[a]

Operation and Maintenance, Navy
Apportionment Request and Budget Data
Fiscal Years 1964, 1965 and 1966

1964

No. of Ships	Unit Cost	Total Cost
Restricted Availabilities		
Category B1	(note 1)	
Technical Availabilities		
Sub Total		
Post Shakedown Availabilities		
Total		

1965

No. of Ships	Unit Cost	Total Cost
Restricted Availabilities		
	(notes 2, 3, and 4)	
Technical Availabilities		
Sub Total		
Post Shakedown Availabilities		
Total		

1966

No. of Ships	Unit Cost	Total Cost
Restricted Availabilities		
Technical Availabilities	(note 5)	
Sub Total		
Post Shakedown Availabilities		
Total		

Notes:

(1) List ship types, as applicable, under each category.
(2) Total number of ships within each type that will be funded within the applicable fiscal year.
(3) Average dollar requirement to fund one ship.
(4) Total costs for all ships within each type.
(5) Indicate explanation of required increase or decrease for fiscal years 1965 and 1966.

---

[a] Letter from Chief, Bureau of Ships to Commander in Chief, U. S. Atlantic Fleet and Commander Service Force, U. S. Pacific Fleet, serial 518B-405 of 10 December 1963.

FIGURE 4

FORMAT FOR SUBMISSION OF S & E JUSTIFICATION

DATA BY FLEET COMMANDER TO BUREAU OF SHIPS[a]

Operation and Maintenance, Navy
Apportionment Request and Budget Data
Fiscal Years 1964, 1965 and 1966

Type (1)	No. of Ships (2)	Consumable Supplies	Equipage Replacements	Repair Parts Replacements	Total Unit Cost (3)

Total Cost (4)	Beginning Inventory (5)	Ending Inventory (6)	Ships Allowance (7)	Total Deficiencies (8)

Category 1	Ships requirements (9) and (10)
1a	Other Allowance Deficiencies
II	Flag and Commands
III	Repairs to other Ships
IV	Service Craft and Docks
V	Special Projects & Operations

Notes:
(1) List ship types, as applicable, under each category.
(2) Total number of ships within each type that will be funded within the applicable year.
(3) Average dollar requirement to fund one ship.
(4) Total cost for all ships within each type less credit for material turned into store.
(5) Value of beginning inventory in dollars.
(6) Value of ending inventory in dollars.
(7) Value of items comprising ships allowance in dollars.
(8) Value of deficiencies in dollars (SOAP).
(9) Indicate explanation of required increase or decrease for fiscal year 1964 and 1965.
(10) Indicate explanation of required increase or decrease for fiscal year 1965 and 1966.

---

[a] Letter from Chief, Bureau of Ships to Commander in Chief, U. S. Atlantic Fleet and Commander Service Force, U. S. Pacific Fleet, serial 518B-405 of 10 December 1963.

Personnel of the Fleet Maintenance Division, Bureau of Ships, review the requests for funds, number of ship years and justifications for increases. Adjustments are made to reflect more current ship year data and a consolidated report, in the format as listed in figure 5, is submitted to the office of the Comptroller of the Navy reflecting the amounts considered saleable during budget reviews.

Budget analysts in the Office of the Navy Comptroller review the data paying particular attention to the justification for any increases over that of prior years.

The complete review process involves the Navy Comptroller, Chief of Naval Operations Advisory Board, Secretary of the Navy, Secretary of Defense, Bureau of the Budget, the President and Congress. It is the responsibility of the Chief of the Bureau of Ships and the Deputy Chief of Naval Operations, Logistics, to testify before Congress in defense of the Ships and Facilities portion of the budget.

A review of the House and Senate hearings for the past three years concerning the appropriation Operation and Maintenance, Navy failed to reveal instances wherein Supplies and Equipage funds per se were discussed. The inference is that reductions of fleet funds occur at the Navy Comptroller and Secretary of Defense/Bureau of the Budget levels as well as the Bureau of Ships level.

FIGURE 5

FORMAT FOR SUBMISSION OF S & E JUSTIFICATION DATA BY BUREAU OF SHIPS TO OFFICE OF THE NAVY COMPTROLLER[a]

Supplies and Equipage

1. Ships Quarterly Allotments

For FY 1963, 1964 and 1965

Type	Ship Years	Cost per Ship Year	Total

2. Flags and Commands
3. Repairs to Other Vessels
4. Service Craft and Docks
5. Special Projects and Operations
6. SOAP deficiencies

---

[a] Budget document in the files, Maintenance Budget Branch, Bureau of Ships Controller, for fiscal year 1965 submission.

Shipboard Budgeting

Navy Comptroller regulations assign type commanders the responsibility for financial management of ships.[1] Ship's commanding officers are responsible to the type commander for the effective use of funds and materials.[2] The regulations further state that monetary records will be kept to the absolute minimum[3] and that routine reports will not ordinarily be submitted.[4]

Either the type commander or the commanding officer can require departmental budget records.[5] The Navy Comptroller recommends their use and lists the advantages as:

> 1. A measure of rate of obligation against ships operating target.
>
> 2. A measure of the rate of material issues from storerooms.
>
> 3. A measure of effectiveness of inventory control by providing a comparative analysis of the values of materials withdrawn from stock and material processed for direct turnover.[6]

Under these conditions no standard or uniform method of budgeting at the shipboard level is employed. The absence of uniformity prevents the development of a common fleet wide

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[1] U. S., Department of the Navy, Navy Comptroller Manual, Navy Publication No. NAVEXOS P-1000-8, p. 1-6.

[2] Ibid., p. 1-6.

[3] Ibid., p. 4-9.

[4] Ibid., p. 4-7.

[5] Ibid., p. 4-18.

[6] Ibid.

base upon which costs can be quantatively developed and used by commanding officers and the type commanders in directing and analyzing the expenditure of funds and the use of materials. Records are oriented toward controlling the obligation rate and preventing an over expenditure of funds.

The supply officer, probably because he keeps the operating target (OPTAR) records, usually recommends departmental allocations. When questioned as to how specific allocations were determined during the conduct of annual supply inspections supply officers and commanding officers were vague and non specific. The most common answer being past experience. Allocations based upon planned future accomplishments wherein specific tasks were itemized with associated material requirements were not used in Squadron Seven of Amphibious Force, Pacific Fleet.

Budget Execution

The Chief, Bureau of Ships, receives an apportionment of the appropriation Operation and Maintenance, Navy via the Secretary of Defense, Secretary of the Navy, and the Navy Comptroller. Before receipt however, the apportionment must be justified in the same manner as budget requests, so in essence, the budget process is repeated and subject to reductions, particularly if Congress has not appropriated the amounts requested or if "savings" are desired. In addition, reserves may be established at any level.

The Chief, Bureau of Ships allots funds to the fleet

commanders who in turn suballot funds to the type commanders.

Type commanders adjust their financial plans, as necessary, if funds have been reduced and advise ships of the first quarter and planned operating targets for the year.

The ship, type commander, fleet commander, and the allotment administrator of the Bureau of Ships receive obligation and expenditure reports. The rate of obligation and expenditure is equated with need. A slow rate of obligation indicates all the funds aren't required and conversely a fast rate might result in insufficient funds being available near the end of the quarter. Shipboard augmentation requests must be justified and except in the case of very expensive repair parts, life saving equipment or damage control items, the requests are usually denied on the basis "stringency of funds preclude granting augmentation at this time."

Shipboard departmental reports usually take the form of summary statements indicating funds allocated, obligations to date, expenditures to date, and the balance available. Some ships break down the obligation and expenditure data between issues from stock and items ordered direct turnover from ashore stock points.

Shipboard reports to the type commander consist of the obligation expenditure report discussed above and a working capital report. This report indicates the opening inventory balance, receipts, issues, expected receipts and ending inventory balance.

Summary

The appropriation structure of the Navy's budget provides Congress an object type budget, i.e., pay for personnel, costs of operation, things to be purchased, things to be developed, and items to be constructed.

The Navy appropriation accounting system is designed to furnish obligation and expenditure data at the appropriation, budget activity, budget project, and allotment levels. Expenditure accounts indicating "use made" or "function served" provide additional insight into how funds are used.

Pay, items to be procured, items to be developed, and items to be constructed can be definitively stated and reasonably well priced out for budget purposes. Because a standard or some measurable quantity has been stated obligation and expenditure rates provide reviewing officials with a basis of comparing planned objectives against actual results, thus providing a method of measuring results and directing attention to areas of possible difficulty.

This is not true for cost of operations or more specifically, the budget activity Maintenance and Operation of the Active Fleet and the budget project supplies and equipage.

A standard or measurable objective is not available for comparison against expenditure rates; hence there is the reliance upon historical data as a standard for stating

requirements.

Thus it would appear that a more definitive method of presenting needs is desirable for cost of operations in order to place the fleet in the best possible competitive position for funds.

CHAPTER III

FINANCIAL DATA

Perspective

A review of the Navy's budget in comparison with the other services and the composition of the Navy budget indicates that for fiscal year 1964 the funds requested of and appropriated by Congress were:[1]

Department	Presidents Budget $ Millions	%	Congressional Action $ Millions	%	Change $ Millions	%
Navy	15,362	29.6	14,695	29.7	667	27.7
Army	12,987	25.0	12,466	25.1	521	21.6
Air Force	19,882	38.2	19,037	38.4	845	35.0
Def. Agency	3,425	6.5	3,283	6.6	142	5.9
Civil Agency	347	.7	112	.2	235	9.8
Total	52,003	100	49,553	100	2410	100
% of Request			95.4%		4.6%	

During the past five years the Navy's portion of the Defense Department budget has fluctuated between 27.6% and 30.8%.

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[1] U. S., Department of the Navy, Office of the Comptroller, Navy Budget Digest, Fiscal Year 1964, Navy Publication No. NAVEXOS P-1355, p. 32.

The breakdown between the various Navy appropriations for fiscal year 1964 was:[1]

Approp.	Navy Subm to OSD $ Millions	President's Budget $ Millions	Diff.	Congressional Action $ Millions	Diff.	Total Diff.
Military Personnel	3,697	3,595	102	3,533	62	164
%	22	23.4	7.4	24	9.3	8
Operation & Maintenance	3,409	3,126	283	3,105	21	304
%	20.4	20.4	20.5	21.3	3.2	14.9
Procurement	7,732	6,792	940	6,326	466	1406
%	46.2	44.2	68.0	43.0	70	68.8
Res. & Dev.	1,629	1,573	56	1,526	47	103
%	9.8	10.2	4.0	10.3	7	5.0
Mil. Con.	274	276	2	205	71	69
%	1.6	1.8	.1	1.4	10.5	3.3
Total	16,741	15,362	1,379	14,695	667	2,046

The Operation and Maintenance appropriation for fiscal year 1964 was 20.4% of the requested budget and 21.3% of the approved budget. The initial submission was reduced 8.9%. During the past five years the approved Operation and Maintenance appropriation has fluctuated between 19.7% and 24.7% of the total Navy budget.

The Ships and Facilities portion of the Operation and Maintenance appropriation for the past five fiscal years has been:[2]

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[1] *Ibid.*, p. 32.

[2] *Ibid.*, p. 54.

	Year 1960	1961	1962 ($ in Millions)	1963	1964
Amount	859	844	1033	976	1003
% of Approp.	30.8	31.7	33.7	32.3	32.2

For fiscal year 1964 it is 6.8% of the approved Navy budget.

The Supplies and Equipage segment of the Operation and Maintenance appropriation for the past four fiscal years has been:[1]

Fiscal Year	BuShips Request		SecNav Request		Presidents Request		Approved Request	
	Ship Years	$	Ship Years	$ ($ in Millions)	Ship Years	$	Ship Years	$
1961	858.5	85.2	864.0	86.7	817.6	84.0	818.4	81.3
1962	813.5	90.2	813.5	90.2	813.5	85.7	876.1	95.5
1963	825.0	98.0	870.4	101.4	870.8	97.1	864.7	98.7
1964	883.0	116.1	877.3	116.1	873.0	107	871.1	107.3

$ per Ship-Year
($ in Thousands)

1961	9.9	10.0	10.3	9.9
1962	11.1	11.1	10.5	10.9
1963	11.9	11.6	11.2	11.4
1964	13.1	13.2	12.3	12.3

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[1] Interview with Mr. R. W. Becker, Budgets & Reports Branch, Office of the Navy Comptroller, January 1964.

It would appear that within the Navy all the funds requested by the allotment administrator were granted and that reductions were made at the Secretary of Defense and Bureau of the Budget level. Such is not the case however, as the allotment administrator scales down the Fleet Commanders requests to a figure believed to be acceptable or defensible at budget reviews.[1] Both Fleet Commanders are on record stating that the material condition of ships is being impaired and that inventory shortages totaling in excess of $25 million exist.

The office of the Secretary of Defense and the Bureau of the Budget analysts recognize that fleet requirements are not being fully funded but "justify" reductions on the basis of shipboard inventory values. Additional funds are to be supplied from an "eat down" of inventories. This situation has caused the fleet commanders concern over the material readiness condition of ships.

The funding problem divides itself into two parts--funds necessary for operations and funds required to finance inventories. Reviewing officials are requesting specific information on deficient line items, annual consumption of supplies, items in long supply and total inventory values, in other words a standard of performance which can be objectively stated and measured. This requires a cost accounting system aboard ship and an allowance list which equates shortages to

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[1] Interview with Mr. J. G. Motheral, Budget Planning and Program Branch, Office of BuShips Comptroller, January 1964.

equipment to the effect an inoperative condition will have on the mission capability of a ship.

Inventories

Shipboard inventories are the commanding officer's first echelon of support and are the expression of the Chief of Naval Operations requirement that ships have a maximum build-in-endurance to enable them to perform their missions independent of outside logistic support.

When a ship is placed in commission or new equipment added it is provided with a full allowance of consumable supplies, repair parts, and equipage; thereafter it is expected to replace what is used from the funds allotted.

Inventories vary from approximately 15,000 items aboard a destroyer valued at approximately $300,000 to 40,000 items, not including aviation repair parts, valued at approximately $1,500,000 aboard a carrier. Monthly consumption varies from $5000 to $50,000. Total Navy shipboard inventories are in excess of $150,000,000.

The inventories are composed of consumables, repetitive use repair parts, and "insurance" type repair parts. The items are high value, medium value and low value. Shipboard inventory composition and usage data normally are found to be:[1]

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[1] J. W. Cartee, Professional Paper on Supply Management (unpublished report). Navy Department, Bureau Supplies and Accounts, 1960, pp. 17-21.

Type	Approximate % of items carried	Approximate % of inventory value	Approximate % of money value issues
Consumables	10	20	40 - 50
Repetitive use repair parts	1 - 2	10	10 - 15
Non-Repetitive repair parts	88 - 89	70	30 - 35
Equipage			10

Allowance Lists

Allowance lists identify the equipments, repair parts, and consumable supplies authorized and required to be on board ship.

The Chief of Naval Operation's guidance in preparing allowance lists is in part:[1]

1. Allowance lists will be based on wartime needs.

2. The range of items will take precedence over the depth of items.

3. The items included will, except in cases authorized, be within the capability of the ships force to install.

Because the effectiveness of the shipboard allowance list so strongly influences the combat readiness of ships a Coordinated Shipboard Allowance List (COSAL) program was established in December, 1956. Its basic objective was to

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[1] U. S., Navy Department, OPNAV Instruction 4441.4 of 20 December 1956.

enhance the endurance capability of the operating forces. Toward this end, a basis for determining the relative military importance of equipments and repair parts as they relate to the successful accomplishment of assigned missions by ships independent of outside logistic support had to be established.

Added emphasis was given to the program when the George Washington University Logistics Research Project, Serial T-82/58 report was studied. It reported the analysis of spare parts usage on twelve submarines over a four year period. The results of the study indicated that approximately 75% of the technical repair parts had no movement on each submarine. Of the items which did move more than 70% were demanded only once over the four year period and less than one percent of the items used were common to each of the submarines.

The spare parts allowance problem thus resolved itself into the development of a method for treating those items which had shown zero usage in the past but which might move in the future. More particularly, it was the problem of identifying that segment of the repair parts inventory which is vital to the ship's existence independent of past usage.

This resulted in a decision to obtain military worth estimates for the total component and part population range of a single combatant ship. The submarine, USS Tiru (SS 416) was chosen for this purpose. Evaluations were obtained for approximately 1300 components and approximately 31,600 repair

part applications for the components. Three independent valuations were obtained for each component and two independent valuations for each repair part.

A scale of measurement codes 1, 2, 3, and 4 were used. A code 1 decision indicated a component failure, the seriousness of which would cause the ship to return to port for repair. A code 2 decision (high risk) indicated a failure which would introduce a calculated risk into the accomplishment of the mission in terms of operational capability of the ship. A code 3 decision (moderate risk) indicated a failure which imposed a much less serious restriction on the accomplishment of a mission and wherein the component failure could be compensated for, for example, the substitution of manual for mechanical operation. A code 4 decision (negligible risk) indicated a failure which imposed no restriction on the accomplishment of the mission.

The research group concluded that there were two important results of the allowance list study. First was the predominance of agreement among the independent answers for the component and repair part evaluations. In the case of components, substantial agreement among the participants was obtained for 1132 or 92.4 percent of the total components evaluated. Second was the count of the number of components and repair parts falling into each military worth category. Approximately three percent of the total number of components evaluated were assigned code 1; twelve percent were assigned

to code 2; forty-three percent to code 3; and forty-two percent to code 4. These findings were considered very significant because of their marked contrast to the widely held assumption of equal worth for all components at all times insofar as allowance list decisions were concerned.

Approximately sixty-six percent of the repair parts fell into the lower worth codes and almost thirteen percent of the items could fail without disturbing the operation of the parent equipment.

This study provided the background for an Optimum Coordinated Ship Allowance List Program (Optimum COSAL) for the Polaris submarines. The purpose of the study was to develop mathematical models or techniques for making optimum allowance list range and depth determinations. The methodology proposed by the George Washington University Logistic Research Project personnel included considerations of military worth and any constraint which might be imposed; i.e., space, weight, budget, repairability, etc. What had primarily been a research effort up until 1960, became a Navy-wide program.[1]

Approximately forty different lists, each based upon computations for the total installed population of technical repair parts, were prepared for the USS George Washington. They were reduced to eighteen lists, and to six which were considered as representative of the Optimum Cosal requirements.

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[1] U. S., Department of the Navy, OPNAV Instruction 4423.1 of 17 March 1960.

These lists were reflective of particular mixes of operational policies, i.e., minimize essentially weighted shortages, minimize dollar and/or space requirements, maximize protection levels, etc.

The repair part demand data generated to date indicates that the allowances generated by the research project are more responsive and well-balanced than the actual on-board allowance. The testing period has not yet generated sufficient data to determine any quantitative relationships between the actual and various proposed allowances lists. Preliminary qualitative comparisons do now indicate that the model listing would have provided fewer high military worth part shortages; would have required 17% less storage volume; would have cost 10% ($2,190,000 vs. $2,430,000) less; would have provided equal range of repair parts; and would have increased the depth three fold.[1]

The military essentiality approach to classifying and pricing shipboard repair parts inventories is a method of objectively and quantatively stating requirements. Admittedly it probably would result in little, if any, of code four type repair parts being carried on board as inventory on the

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[1] Robert G. Iverson, et.al., The Growth of a Rational, System Approach to Naval Repair Parts Inventories: The Introduction of Military Essentiality. Report submitted to the Navy Graduate Financial Management Program, The George Washington University, January 1962. This report was quoted extensively in this section.

other hand it provides specific guidance in how to invest available dollars.

Maintenance Management

A standard Navy Maintenance Management system is being developed to achieve an improved, measurable state of readiness of the operating forces of the Navy with an expected significant increase in the efficient management of the Navy's maintenance and material resources.[1]

It directs the development of uniform supply and associated accounting and budgeting support systems, records and techniques including the accumulation, recording, control, reporting, utilization and feedback of data and summarized information responsive to maintenance and material management needs at the various command levels afloat and ashore.[2]

From a material management and budgeting standpoint, in general, the program will provide a time phased schedule for preventative maintenance with a bill of materials that can be checked against inventory balances and priced out for each piece of equipment. In addition, the system provides for reporting repair parts usage data for equipment breakdowns and

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[1] U. S., Department of the Navy, OPNAV Instruction 4700.16A of 1 August 1963.

[2] U. S., Department of the Navy, OPNAV letter serial 1609P43 of 12 August 1963.

preventative maintenance. This data will be used to adjust the "standard bill of materials" and allowance lists.

The ability to price out planned maintenance will provide a standard for comparing actual with planned results in terms of dollars if the accounting system is so designed thereby functioning as a management tool for the department head, commanding officer and type commander.

The costs of breakdowns, unplanned work, from a budgetary standpoint are still uncontrolled as no standard exists for comparison until force wide usage data is generated and used as a measure of performance.

Supply Availability Program

Concurrent with the research projects at The George Washington University, the Office of the Chief of Naval Operations directed that a supply availability program be established to improve the supply readiness of each ship.

The objectives of the program are to insure that:[1]

1. The description of equipments and components expressed in the equipment allowance lists or indices agrees with the equipments and components installed.

2. The repair parts allowance lists support the equipments and components installed.

3. An integrated stock list is developed to include a single allowance quantity for each item required regardless of the type or number of applications of that item to different equipments or components.

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[1] U. S., Department of the Navy, Bureau of Supplies Accounts Manual, para. 31102.

4. Endurance load quantities are developed, when feasible, for both allowance and non allowance items.

5. Material is properly identified, ready for issue, and properly stored.

6. Excess material and not ready for issue items are offloaded.

7. Stocks of allowance and nonallowance items are brought to prescribed levels as funds permit.

8. All supply department records accurately reflect the material on board.

Prior to each overhaul, usually every two years, ships with the assistance and guidance of the supply operations program teams are expected to validate the on board equipments with the allowance list by conducting a sight inventory and comparing nameplate data. Discrepancies are to be reported to the allowance list maintenance activity.

During the overhaul ships:

1. Offload materials and associated stock records.

2. Identify and mark material to indicate the current stock number and part number.

3. Inventory material, correcting on hand balances and when appropriate, quantities issued and issue frequency.

4. Turn in excess material.

5. Requisition material deficiencies within the limitations of funds provided or based upon guidance of the type commander.

6. Onload and restow material.

7. Update locator systems and records where appropriate.

The allowance list maintenance activity based upon the validation report and allowance list preparation criteria

prepare a new allowance list.

A central data processing point, based upon the new allowance list, on board inventories and issue data, prepare new stock record cards indicating reorder points and reorder quantities, locator cards, shortage lists, excess lists, an integrated stock list, a demand list, allowance list changes, and ship's statistical summary data.

In theory then, a ships allowance of repair parts is updated every supply overhaul. New reorder points and reorder quantities are computed for consumable items indicating excesses and shortages and also by inference the expected usage of consumables and those repair parts which are subject to repetitive demands. This cost data, already arranged in commodity group classifications indicative of use intended, could very well serve a standard for comparing like ship types.

Experience has indicated however, that the same relative condition, though to a lessor degree, exists the second time around, i.e., excesses and shortages of consumables and repair parts even though funds were partially or totally provided to fund the initial shortages.

A reoccurring review of financial records, if maintained by commodity or cost type categories, would reveal increases and decreases of issues and receipts and direct attention to those areas where excesses and shortages are accumulating.

Selected Item Management

Commander Cruiser-Destroyer Force, U. S. Atlantic Fleet has removed repair parts from shipboard operating target funding and limited the replenishment of repair parts, thus separating consumption or usage costs from inventory build up.[1] Repair parts are divided into three categories, those with three or more demands since the last supply overhaul or during the interval between overhauls, those items appearing on the allowance lists, and those items not appearing on allowance lists.

The active items, category 1, are managed on a reorder point reorder quantity basis; category 2 items are to be replaced on a one for one basis if on board; and category 3 items are to be requisitioned for immediate use only. Figure 6 is a summary of fiscal year 1963 repair part data for the Cruiser Newport News. On an item basis, category 1 items, amount to only two percent of the repair parts stocked and at that point in time five and a half percent of the inventory value. On an issue basis, category 1 items, constituted 53.5% of demands for material and 45% of the dollars spent for stocked materials.

It is significant to note that 16.5% of the demands for repair parts and 36% of the dollars were spent for items

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[1] U. S., Department of the Navy, ComCruDesLant Instruction P 73313.9H of 13 July 1963.

FIGURE 6

SUMMARY OF FISCAL 1963 DATA ON H, N, AND Z COG SIM REPAIR PARTS FOR USS NEWPORT NEWS[a]

Inventory Data	H COG (Machinery Repair Parts)	N COG (Electronic Repair Parts)	Z COG (Ordnance Repair Parts)
Dollar value of SIM Repair Part Inventory (Extension of quantity on hand 6/30/63)	$6,602	$15,660	$3,295
Line Items of SIM Repair Parts	103	306	16
Dollar Value of COG (Average quarterly Inventory from financial ledger, FY 1963)	$ 175,000	$ 233,000	$ 60,000
Line Items of Inventory (Av. qtrly. inventory from Financial Ledger, FY 1963)	5,072	13,153	3,416
Issue Data--FY 1963			
Dollar Value of SIM Repair Part Issues (Extension of Issues on 1114 cards)	$9,073	$25,423	$2,942
Dollar Value of Issues from Stock (218 Ledger)	$20,147	$57,557	$5,793
Dollar Value of Issues of DTO Material (218 Ledger)	$28,495	$12,826	$6,178
Number of Issues of SIM Repair Parts (demand frequency)	500	2,226	49
Number of Requests for Stocked Items (Issue Document Report)	1,021	3,094	200
Number of Requests for NC Items (Issue Document Report)	377	379	95

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[a] Source: Dunlap and Associates, Inc., Darien, Conn.

not on the allowance list. This condition, while probably not completely representative of all ships, is indicative of allowance preparation and inventory funding problems.

Supply System Inventory Management

All items stocked in the Navy Supply system are identified by a federal stock number in accordance with federal cataloging criteria. The system is designed to uniformly classify, describe, and number the items used by agencies of the federal government.

The stock number is composed of a four digit federal supply classification code followed by a seven digit item identification number. The first two digits of the FSC code identify a broad group of material and the last two digits identify a particular class within the group.

The Navy assigns two digit numeric and alpha code prefixes to federal stock numbers to identify and designate the bureau, office, agency, or supply demand control point which exercises supply management over specified categories of materials, for example, 1H identifies the Navy Ships Parts Control Center as the manager of ships assemblies and repair parts, 1N identifies the Navy Electronics Supply Office as the manager of electronic assemblies and repair parts.

Ashore supply management over Navy inventories is accomplished principally through the use of two fact reporting systems. The first system is stock status reporting which

provides by item a report of each transaction affecting a stock number or a summarization of actions. The second reporting system is financial inventory reporting which provides a regularly recurring measure in dollars of all inventory transactions and the resulting inventory position.[1]

Through dollar reporting, it is possible to group dissimilar items, identify trends and measure progress or the lack of progress against management plans. Dollar reporting also spotlights key problem areas for management attention and action. The use and importance of dollar information increases proportionately as higher management levels are reached.[2]

Financial reports are prepared by class, summarized to groups and further summarized to cognizance symbols. Receipts, issues and inventory investment can be predicted and actual results compared against planning figures. Trends become apparent readily and areas requiring attention are isolated thereby directing effort to the individual item or groups of items out of phase.

This system readily furnishes data as to how money is used (issues), where it is spent (receipts), and how funds are invested (inventory by cognizance symbol, group, class, or by any other designator desired, i.e., high value,

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[1] U. S., Department of the Navy, Bureau of Supplies and Accounts, Supply Management thru Monetary Controls, 1954, p. 2.

[2] *Ibid.*, p. 3.

selected item management, military essentiality groups, etc.).

Shipboard Inventory Management

The supply officer is responsible for the inventory control of stores maintained in his custody and for insuring that an adequated level of supply is maintained. Normally the replenishment of these stores will be assigned first priority in the utilization of funds granted the ship through the regular quarterly operating target.[1]

In theory, the operating target is reallocated to the supply officer as the various departments draw materials from inventory. Funds are "officially" spent when replenishment stocks or direct turnover items are ordered from ashore stock points making replenishment actions a crucial point in shipboard budgeting.

For inventory control purposes a stock record card is maintained for each item of stock. Generally they are provided as a byproduct of the supply overhaul. The data on stock record cards consists of the: stock number, nomenclature, unit of issue, unit price, allowance list identifier, location, reorder point, reorder quantity, military essentiality (if known), individual receipts, individual issues, expected receipts, and the on hand balance. The cards are filed in stock number sequence by inventory managers.

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[1] U. S., Department of the Navy, Bureau Supplies and Accounts Manual, para. 36001.

A financial control ledger is maintained for the items carried in store in a summary form. The data consists of: a beginning inventory balance, batch posted receipts, batch posted issues for ships use, direct turnover issues, transfers to other supply officers, material turned into store, and a running inventory balance.[1]

Department heads are required to maintain a list of equipage items and periodically inventory these items. A copy of the inventory report is to be furnished the supply officer.

Items are to be replenished whenever the reorder point is reached for those items managed on a high/low limit basis and on a one for one basis for non repetitive demand type items.

Issues of stock are made as requested by department heads. Normally only one item is ordered per demand document which is usually prepared in quadruplicate. In theory, one copy is retained by the requesting department head for item and dollar control, the second copy is returned with the material, the third copy is used by supply for posting to stock cards and budget records, and the fourth copy is filed by the supply department as proof of delivery. At the end of the month or accounting period the third copy is returned to the issuing department head as substantiation for the

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[1] U. S., Department of the Navy, Navy Comptroller Manual, para. 085001.

budget charges.

At the shipboard level financial ledgers are not segregated for management on a dollar as well as item basis. The Navy Comptroller Manual does authorize the maintenance of subsidiary ledgers to the extent deemed desirable.

Commander Cruiser-Destroyer Force, U. S. Atlantic Fleet, analyzed the expenditure of fifty-four (54) destroyers for other than repair parts items for the period 1 July - 31 December 1962. The results of the analysis were:[1]

Category	Type	Percentage
1	Repair Consumables (welding rod, metals)	21.3
2	Maintenance Consumables (light bulbs, grease)	18.9
3	Paint & Related Items	12.7
4	Deck & Seamanship Material (cable, wire rope)	7.1
5	Personnel requirements	7.7
6	Housekeeping Material	5.9
7	Office Supplies	5.3
8	Port Services	3.1
9	Contractual Services	1.9
10	Equipage	16.1
	Total	100

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[1] U. S., Department of the Navy, ComCruDesLant Instruction P 73313.9H, 13 July 1963, Appendix E.

This would appear to be well on the way to establishing a meaningful management tool. To be effective, however, it is believed that these costs must be converted into dollars and accordingly apportioned among the departments. Further to be fully effective financial records of the inventory must be so aligned thereby providing a measure of shipboard usage by cost category, replenishment action by cost category and the ability to equate the inventory value to months supply of stock. For example, if paint items, category 3, expenditures of $100. per month are considered normal or standard then the Deck Department budget for the quarter for category 3 items would be $300. Monthly budget reports by cost category would indicate to the department head and commanding officer in terms of dollars whether or not the standard was being met. For inventory management purposes quarterly replenishments of paint should not exceed $300. and likewise if six months stock is the stockage objective then the inventory value should not exceed $600. Variances from planning objectives would be spotlighted for investigation.

This method of recording costs and fractionating inventories can be an additional information system for use in managing the resources of ships.

Summary

Supplies and equipage funds finance shipboard operating costs and inventories. Because neither are

objectively supported except on the basis of differences between previously approved budgets, considerable difficulty is being experienced in obtaining what are believed to be valid requirements.

The optimum costs of operating a ship and the optimum inventory values aren't available for comparison with fund requests; consequently the policy of "eating down" inventories to finance operating costs appears logical when faced with reducing other equally or more desirable programs.

The burden of proof rests with the requestor to present his case in such a manner that the responsibility for and the effect of decisions are understood.

The optimum Coordinated Shipboard Allowance List, Supply Overhauls, Maintenance Management, and Selected Items Management Programs are significant steps toward developing objective data which can be used to substantiate costs. However, it is believed that the starting point for developing costs must be at the user, shipboard level.

People and material must be effectively managed. The onerous task of planning the day to day and week to week activities of personnel, developing a schedule, listing objectives and equating these to man hours and skills available provide the basis for determining requirements. From the planning of objectives and personnel scheduling efforts material requirements can be realistically computed and priced

out, thereby providing department heads and the commanding officer an opportunity to evaluate objectives in terms of men and material. Periodic dollar reporting of costs incurred would supplement progress reports and visual observations as methods of evaluation.

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Budgeting at the shipboard level is not an integrated part of shipboard administration. Plans are not formulated to the extent that bills of material are prepared and stated in financial terms for use as a standard to assist in developing the costs of individual tasks, measure accomplishments and evaluate performance.

The present accounting system collects data on an obligation and expenditure basis. It does not provide commanding officers and senior commanders with the cost data now used to justify budget requests, i.e., equipage, consumables and repair parts, nor does it provide cost data which can be used to develop quantitative standards at the shipboard and type commander levels.

Shipboard costs of operation are justified on the basis of historical data, as evidenced by the budget data submission format used by the Bureau of Ships. Historical data indicates what costs have been, but not necessarily what they should be. This to a certain extent is an unsound practice as all funds allotted will be spent, particularly when reviewing officials equate need to the rate of obligation and expenditures justify future requirements. The questions

of how much and for what funds shall be used cannot be determined at the type commander level until a uniform cost accounting system and standards are developed and implemented at the shipboard level. The difference between requests for like ship types of the Atlantic and Pacific Fleets indicate the current lack of a common base for developing costs.

The relationship between shipboard departmental functions and the federal cataloging criteria is such that classes and groups of material can be identified with individual departments. For example, 1N - electronic repair parts are used by the Operations Department; 1H - machinery repair parts are used by the Engineering Department and 9G8010. Paint is used by the Deck Department. This identification provides a basis for collecting costs and equating inventory depths and replenishments to costs. Establishing and maintaining financial inventory control ledgers in this manner provides summary data for control and management purposes at the shipboard and type commander levels. It does not however, eliminate the need for department heads to plan in terms of tasks to be accomplished and determining the materials required. Approval of these tasks and associated material listings by the commanding officer provide a basis for budgeting at the shipboard level. Planning must precede budgeting if it is to function as an aid to and a control device for management.

Decisions relative to allocating funds have to be made whether or not the pertinent facts are available.

Realizing maximum value for each dollar allotted requires an awareness of the alternatives available and the possible consequences of various courses of action. Fleet supplies and equipage requirements compete with other Navy programs and projects for available dollars. Consequently, there is the need to present as fully substantiated justification as possible in order to preclude being at a disadvantage because other program costs are more definitely stated.

The need to provide a standard or some objective measure for supplies and equipage funds is becoming increasingly more urgent each budget year. Budgets based on a projection of last year's cost are not withstanding budget reviews because operating costs and inventories are not quantitatively supported.

Operating costs were discussed above. Inventories have two facets--validity of allowance lists and the methods of funding.

Possible solutions to the funding problem are:

1. To buy sufficient repair parts at the time of acquiring the parent equipment to support it for its expected life. While this system, in essence, finances repair parts from procurement funds, it has been discarded due to the long life of equipments and the difficulty of predicting requirements fo, an extended period.

2. To transfer shipboard inventories to the Naval Stock Fund, thereby limiting fleet funds to material usage

costs and concurrently insuring material availability. This solution, however, doesn't solve the funding problem but relocates it and delays its ultimate solution. The task of justifying shipboard inventories would shift to the stock fund administrator who has less knowledge of shipboard operations and is removed from the chain of command. It probably would result in less back up stocks in the system and higher unit prices due to the necessity of recouping funds "lost" from the disposal of obsolete items.

3. To transfer high cost non repetitive use repair parts to the appropriation purchases account (APA); thereby making these items "free" to ships. It is a compromise between the extremes of the first two possibilities and is in the process of implementation today. This system will provide temporary relief as stocks in the supply pipe line will gravitate to ships. However input into the pipe line may be restricted as funds to finance new acquisitions probably will equal the reduction in the supplies and equipage project.

4. To stock consumables and repetitive use repair parts at a depth specified in terms of months of supply and non repetitive use repair parts on the basis of military essentiality. This method appears to meet the requirements of operational readiness and effective use of dollars while reflecting a more true cost of operations. Inventory values can be stated in terms of the degree of protection provided and reductions of funds can be equated to the mission

capability risk involved.

The data generated from the maintenance management program will prove the validity of the military essentiality allowance coding decisions and when analyzed as part of the supply overhaul procedures will result in an allowance list and an inventory that can be stated by cost categories in terms of the depth of stock required to provide a given level of protection. Comparison of like ship data by type commanders should provide a pattern of expenditures from which an average or medium could be developed and used as a standard until more scientific standards can be developed. To be fully effective, financial record keeping at the shipboard level should be by cost category, preferably by departmental functions. Periodic financial reports to department heads, commanding officers and type commanders in terms of usage, replenishments and inventory depth by cost category would provide a more meaningful basis for evaluating readiness and the effective use of resources.

Recommendations

To be of significant value financial managers must provide line operating managers with timely information in such a manner that it can be used in decision making. Toward this end it is recommended that:

1. Budgeting at the shipboard level be made an integral part of departmental administration by stating

planned accomplishments and required material as a basis for justifying fund requirements.

2. The inventory be identified to a departmental cost function by cognizance symbol, group and class of material.

3. That subsidiary financial inventory control ledgers be established and maintained by cost category.

4. That departmental and shipboard budget records be maintained by cost category.

5. That shipboard budget reports indicate the amounts allocated and expended by cost category, i.e., ordnance repair parts, electronic and machinery repair parts, selected or non selected item management, housekeeping supplies, maintenance items, etc.

6. That periodic financial inventory status reports be furnished the commanding officer indicating allowance value by cost category, present inventory value, period issue costs, period replenishments, expected receipts and unexpended balance of funds.

These recommendations would result in two significant changes. First, planning would be formalized and used as a basis for justifying funds; and second, uniform summarized control data would be available to assist in analyzing performance and readiness. In addition, this data would serve as the basic building block for the Supplies and Equipage fund requirements.

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